

Ira Remsen, Osler, the Flexner Report, and the full-time plan

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ABSTRACT

A famous letter from Sir William Osler to Ira Remsen, dated September 1, 1911, concerns Osler's objections to the full-time plan, whereby clinical professors should focus on research and abstain from private practice. Previous accounts of this well-known episode make little or no mention of the recipient other than his being president of the Johns Hopkins University. Remsen, in retrospect, was uniquely positioned to champion ideas advanced by Abraham Flexner, the General Education Board of the Rockefeller Foundation, and some of Osler's former colleagues at Johns Hopkins, notably William H. Welch. Remsen had previously expressed the need for Hopkins to advance science-based medicine; he had introduced Abraham Flexner to the Carnegie Foundation (which led to the Flexner Report); and he appears to have been the first US-born person to possess both a medical degree and a doctorate in basic science. Caught in the middle of a faculty controversy, Remsen chose not to pursue the matter further for reasons that included a passive administrative style, concerns about his health, and friendship with Osler.

KEYWORDS Abraham Flexner; Daniel Coit Gilman; Flexner Report; Franklin Paine Mall; full-time plan; Ira Remsen; Johns Hopkins Medical School; Johns Hopkins University; Simon Flexner; whole-time plan; William H. Welch; William Osler

A letter from Sir William Osler (1849–1919) to Ira Remsen (1846–1927) (*Figure 1*), dated September 1, 1911, entitled “Whole-Time Clinical Professors,” printed as a 14-page pamphlet and billed as “a family letter, strictly confidential and not for publication,” conveys Osler's objections to a plan whereby clinical professors at the Johns Hopkins Medical School would be salaried and barred from private practice.^{1–3} Previous accounts of “Osler's famous letter” mention Remsen as president of the Johns Hopkins University but overlook his unique qualifications to advance positions held by Abraham Flexner, Rockefeller Foundation administrators, and some members of the Hopkins medical faculty, notably William H. Welch. Remsen appears to have been the first US-born person to hold both a medical degree and a doctorate in basic science. We examine possible explanations for his decision not to pursue the matter further.

OSLER'S FAMOUS LETTER

The idea of full-time clinical professors in medical schools traces to the 19th-century German research university as conceived by Wilhelm von Humboldt (1767–1835), who emphasized the discovery of knowledge and the fundamental importance of science to how students think. Among the German medical educators who embraced this idea was the surgeon-polymath Theodor Billroth (1829–1894), whose 1876 book, *Medical Education in the German Universities*, was highly influential in the United States.^{4,5} Four events drove the full-time plan as it played out at Johns Hopkins. In 1884 the pathologist William H. Welch, while working in the laboratory of Carl Ludwig (1816–1895) at Leipzig, became enamored with the idea and met another enthusiastic American, the anatomist Franklin P. Mall (1862–1917). The two Americans reunited after Welch became founding dean at the Johns Hopkins Medical School and rallied fellow basic scientists to support the idea that clinical professors should not engage in private

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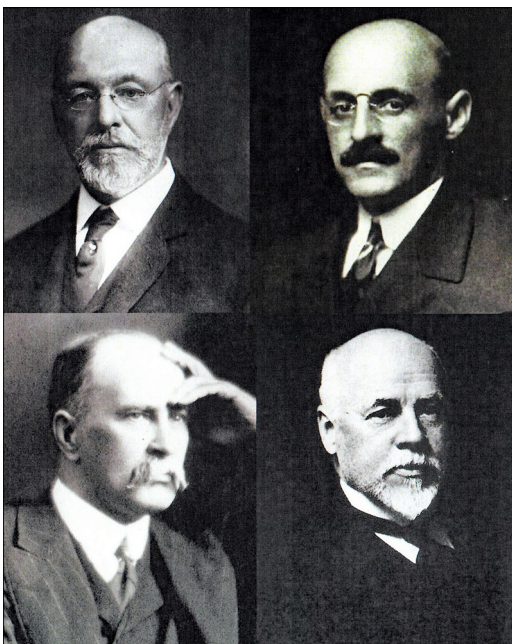


Figure 1. Top left: Ira Remsen in 1909; top right: Abraham Flexner, circa 1910. Bottom left: William Osler in 1909; bottom right: William H. Welch, undated. Credits: Alamy Stock Photo (Remsen and Flexner); Osler Library of the History of Medicine, McGill University (Osler); National Library of Medicine (Welch).

practice. In 1897 Frederick T. Gates (1853–1929), a Baptist minister and advisor to John D. Rockefeller, read *The Principles and Practice of Medicine* by Osler, grasped the potential of scientific medicine, and began to steer Rockefeller philanthropy in that direction. In 1908 Henry S. Pritchett (1857–1939), president of the Carnegie Foundation for the Advancement of Teaching, commissioned Abraham Flexner (1866–1959) to study US medical schools, culminating 2 years later in *Carnegie Foundation Bulletin Number Four*, commonly known as the Flexner Report, and recommending that clinical faculty be “true university teachers.” Finally, in 1911, Gates read the Flexner Report, sought out its author, and asked Flexner what he would do were he given a million dollars to further American medical education. Flexner without hesitation answered that he would “give it to Dr. Welch.” Flexner conferred with Welch, Mall, and others at Johns Hopkins. This resulted in another report, prepared by Welch and circulated among the Hopkins medical faculty, calling for Hopkins to use Rockefeller funds to implement a full-time plan.^{6–11}

Welch’s report split the Hopkins faculty into two camps, the basic scientists vs some of the clinical faculty. The surgeon William S. Halsted (1852–1922), nearing the end of his career and diffident about practice, came around to the full-time idea, but the gynecologist Howard A. Kelly (1858–1943) and other clinical faculty opposed it. Osler, having left Hopkins in 1905 to become Regius professor of medicine at Oxford, kept up with events in Baltimore and expressed concern for the institution he had helped create.

On July 6, 1911, Remsen preemptively sent Osler an advance copy of Welch’s report with a cover letter that reads in part:

Our faculty have given a good deal of attention to the matter [the Rockefeller proposal to fund full-time clinical professorships at Johns Hopkins] and have reached practically a unanimous decision.... I cannot [but] think that we are far from right.... I have heard that you do not look favorably upon the plan. I am sorry for this and I believe that if you had been able to discuss the problem with us you would have come out about where we have.¹²

Remsen included a copy of the Flexner Report in his mailing to Osler.

Osler studied the contents of Remsen’s mailing and on August 25 wrote Remsen:

I am sending you a “family letter” on the subject of the whole time plan. As the report got into the circulation among the faculty, I think I should send it to the teachers as well as to the Trustees. I have only recently had time to study Flexner’s report which is full of interesting information—full too of errors and a total misconception of the clinical situation.... Welch should have edited it. And Flexner should have had more sense. The truth is he does not understand the clinical problem—but you will see how I feel on this position.¹³

Osler begins the “family letter” by acknowledging two sides to the issue and flattering Flexner as an “Angel of Bethesda” who “has done much good in troubling our fish-pond, as well as the general good.” Osler then polemicizes:

I cannot imagine anything more subversive to the highest ideal of a clinical school than to hand over young men who are to be our best practitioners to a group of teachers who are *ex officio* out of touch with the conditions under which these young men will live.... The danger would be the evolution throughout the country of a set of clinical prigs, the boundary of whose horizon would be the laboratory, and whose only human interest was research, forgetful of the wider claims of a clinical professor as a trainer of the young, a leader in the multiform activities of the profession, an interpreter of science to his generation, and a counselor in public of the people in whose interests after all the school exists.

Osler fully supported full-time salaries for medical researchers, as evinced by a letter written 9 years earlier to Gates.¹⁴ But he felt that the full-time plan for clinical professors would

spell ruin to the type of school I have always felt the hospital should be. Thus, divert the ardent souls who wish to be whole-time clinical professors from the medical school in which they are not at home to the Research Institutes to which they properly belong, and in which they can do their best work.¹

Recipients of Osler’s letter honored his request not to publish it in full, as did the executors of his estate and Harvey Cushing, his first biographer.^{15,16} The full contents were revealed in 1963 by Alan M. Chesney in his history of the Johns Hopkins Medical Institutions.²

IRA REMSEN

Remsen’s stature in the basic sciences matched Osler’s in clinical medicine.^{17–20} He was “for many years the outstanding figure in American chemistry”^{17,18}; he popularized German laboratory methods in teaching chemistry to undergraduate and graduate students; he wrote a successful textbook, *Theoretical Chemistry* (1883); he founded the *American*

Chemical Journal (1879); and he was popular among peers, serving as president of the National Academy of Sciences (1907–1913). His interests transcended chemistry. Two colleagues wrote of Remsen:

His lectures abounded in allusions to hygiene, sanitation, and industrial matters of public interest. Outside his field it was the biological and medical sciences with which he was most familiar, but it may be unhesitatingly affirmed that there was never any insinuation that other fields were of lesser importance. His vision was bounded by a broad horizon rather than the narrow vista which too often restricts the outlook of the scientist.¹⁷

Descriptors of Remsen by contemporaries read almost interchangeably with those of Osler. Remsen was “not above medium height”; he was “always well groomed, neatly dressed... [and with] his hands immaculately kept.” “He had a keen sense of humor and a ready wit, a personality in the fullest sense of the term. He drew people to him but always kept them in their place.” Moreover, “those who trained under him look back to him as a father, who always required high quality in their work, and who was wise in his advice and helpful in their difficulties.”¹⁷ Remsen was “live and forceful without self-consciousness and without the eccentricities which distinguish many academic persons,” and as a lecturer he spoke with “simplicity and clearness,” choosing his ideas “with great care” and expressing them “in terms ruthlessly stripped of all pedantry, avoiding at the same time any suggestion of pedantry.”²⁰

Born in New York City of Dutch ancestry, Ira Remsen received a medical degree from the College of Physicians and Surgeons (now Columbia University Vagelos College of Physicians and Surgeons) in 1867, at age 21, perhaps mainly to please his father, James Vanderbilt Remsen. To his father’s disappointment, he declined a private practice and spent the next 5 years in Germany studying chemistry. He went first to the University of Munich and then to the University of Göttingen, from which he received a doctorate in 1870. Remsen appears to have been the first US-born person to hold both a medical degree and a doctorate in the basic sciences; our search, which included the *Dictionary of American Medical Biography*,²¹ the biographies of all charter members of the American Society for Clinical Investigation,²² and standard accounts of the history of that era, revealed no predecessor in this regard. Remsen’s postdoctoral work at the University of Tübingen resulted in the discovery of Remsen’s law pertaining to groups attached to the ortho position of the benzene ring. In 1872 he returned to the US and took a position as professor of chemistry and physics at Williams College in Williamston, Massachusetts. Although Williams College had no laboratory when he arrived, he managed to do experimental chemistry and write a short textbook.

These activities drew the notice of Daniel Coit Gilman (1831–1908), founding president of the Johns Hopkins University, who invited Remsen to be a charter member of the faculty. Gilman, in his inaugural address on February 22, 1876, made it clear that his vision of a university focused on

graduate education and research extended to clinical medicine. He suggested that the interval before opening of the medical school could be spent developing plans for the Department of Medicine with emphasis on “the studies which bear upon life—the group now called the biological sciences.”²³ Remsen endorsed this vision. Addressing the Medical and Chirurgical Faculty of the State of Maryland in 1878 on “Chemistry and its Relations to Medicine,” he averred that “the scientific mind—a something which is tangible and attainable... should be a characterizing feature of every medical man.”²⁴ In 1883 Remsen was one of three men “designated as Professors of the Medical Faculty” for planning the Johns Hopkins Medical School which, for reasons including a funding shortfall, did not open until 10 years later.

In 1901 Remsen succeeded Gilman as president of the Johns Hopkins University upon the latter’s retirement. He steered the university through financially difficult times, approved admitting women as graduate students for the first time in the US, founded an engineering school, and oversaw planning for the university’s move from downtown Baltimore to the Homewood Campus. Meanwhile, across town at the medical school, Osler’s successor Lewellys F. Barker (1867–1943) developed within the Department of Medicine at the Johns Hopkins Medical School a biological laboratory, a biochemical laboratory, and a physiological laboratory—early prototypes of research-oriented divisions within US medical schools.

REMSEN, FLEXNER, AND OSLER

Remsen had personal as well as intellectual reasons to support the full-time plan. In 1908 it was Remsen who gave Flexner a letter of introduction to carry to his interview with Henry S. Pritchett of the Carnegie Foundation.^{25,26} Remsen was also a friend of Flexner’s older brother, Simon Flexner (1863–1946), longtime director of the Rockefeller Institute for Medical Research (1901–1935).

Remsen’s friendship with Osler endured the latter’s departure from Baltimore. On November 5, 1905, Osler wrote Remsen about his new life in Oxford, his family, his work, his quarters at Christ Church, and his roles as a member of the Hebdomadal Council of Oxford University and curator of the Bodleian Library.²⁷ In March 1911, just 3 months before the full-time controversy erupted, Osler sent Remsen a postcard from Egypt, relating his audience with the chancellor of Al-Azhar University.²⁸ Remsen therefore had personal reasons to take Osler’s views seriously even if he did not agree with them.

Although Osler and Abraham Flexner apparently never met in person, Osler warned Flexner about the forthcoming “famous letter” just as he warned Remsen. Flexner treated Osler with kid gloves, writing on October 6, 1911:

Your note warning me what to expect reached me some three weeks ago.... I think, that understanding my report as you did, you were very good indeed to call me any kind of an angel, even

an angel of Bethesda! It ought, however, to have been clearly explained when the report was mailed to you that it did not at all undertake to do what you appear to have judged. I was endeavoring not to characterize the Johns Hopkins Medical School in its entirety, but only to make a cross-section as the thing now stands, to describe what I saw, and to make recommendations as to the use of the proposed [Rockefeller] gift.... The opinion that the report reflects is therefore entirely consistent with a decidedly different opinion as to what conditions were during your incumbency.²⁹

Flexner later made it clear in his autobiography that he had nothing to do with authoring the full-time plan; the idea of using Rockefeller funds in this way originated largely with Welch.²⁵ By the new conditions, Flexner possibly referred to the three research laboratories created within the Department of Medicine by Barker.

Remsen wrote Osler on October 26:

Your letter entitled "Whole-Time Clinical Professors" reached me a few weeks ago. I need not say that I have read it with care. In fact, I have read it several times with care, and so have many others here. I am not prepared to give you an answer at the present time, nor do I think it necessary. I appreciate the interest you show in the matter, and everybody who has read the letter must feel under obligation to you. I must confess that there are certain features in the proposed new plan which I cannot get clear about. I am doing a good deal of thinking and trying to get light. Of course, it is quite possible that nothing will come of this movement.³⁰

This proved to be the case; nothing came of the Rockefeller proposal during the remainder of Remsen's presidency.

At least three reasons can be advanced for Remsen's reticence to move forward with the Rockefeller proposal. First, Remsen did not especially enjoy administration. He had accepted the presidency "with misgiving, finding comfort in the delusion that an administrative officer can, with satisfaction to himself, continue some of his teaching and research." For Remsen, the presidency "was a task for which he had no special taste or aptitude, and though the prestige and emolument of the office must have meant something to a man of family, there was probably no time when he would not cheerfully have walked across Little Ross Street to resume his place in the red brick laboratory which he could see daily from the presidential address." Also, Remsen "liked to have a solid basis for every decision. And when faced with a situation for which no such basis could be had he was reluctant to decide at all."³¹ Remsen could be decisive when necessary but, as he wrote Osler, he did not feel it necessary to act under the circumstances.

Second, Remsen was concerned about his health, which led him to resign from the presidency the next year, on April 9, 1912, agreeing to continue in office until a successor was found.^{31,32} In January 1913, with no successor identified, he resigned effective immediately and underwent a prostatectomy by Hugh H. Young (1870–1945), pioneering urologist at Hopkins. Osler promptly wrote Remsen:

I am very sorry to hear that you have been in the hands of the Philistines, but glad to see that it was so safe a one as Hugh

Young. What an aggravation for you to be afflicted in this way, but the removal of that miserable gland will I am sure, put you in good condition.³³

Remsen regained his health, resumed teaching, and lived another 14 years.

The strongest explanation for Remsen's reluctance to act may have been respect for Osler's opinion. Remsen may have taken seriously Osler's argument that senior professors should focus on teaching, mentoring, and encouraging the young. These became Remsen's primary activities over time. He had a talent for asking questions and suggesting "the general avenues of approach rather than the special means," as was the case when he suggested experiments to the Russian-born chemist Constantin Fahlberg (1850–1910) that led to the discovery of the artificial sweetener saccharin.³⁴

The rest of the story is well known. Welch, who became chairman of an administrative committee for the Johns Hopkins University while the search continued for Remsen's successor, negotiated with the General Education Board, resulting in a Rockefeller gift of \$1.6 million in 1913 to implement full-time clinical professorships. The arrangement was unpopular with most clinical faculty, Barker being among the first to leave and enter private practice.³⁵ Osler eventually came around to accepting the full-time plan, at least at it applied to his alma mater, McGill, writing on August 29, 1919, that "McGill simply cannot afford to fall behind other first-class schools that were accepting Rockefeller funds to implement full-time professors."³⁶

EPILOGUE

The full-time plan, modified at most medical schools as a "geographic full-time plan" allowing clinical faculty to engage in practice at their base institutions, proved hugely successful. Through the years, concerns have been raised about downsides such as erosion of humanism in medicine and marginalization of practicing physicians as teachers and role models.^{37–40} Still, as A. McGehee Harvey of Johns Hopkins summarized:

No single event has had a more profound effect on medical education and medical practice than the movement to full-time positions in clinical departments. Out of this emerged the clinical scientist, versed in the bedside practice of medicine and capable of applying the knowledge and techniques of the basic sciences to the study of human disease.⁴¹

In 1956 Western Reserve University (now Case Western Reserve) implemented the first continuous MD-PhD program in the US, an idea that has taken hold in many universities and produced extremely qualified clinician-scientists.⁴² We can only speculate what might have happened had Remsen, who was apparently the first US-born MD-PhD and who trained 107 PhD students in chemistry during his tenure at Johns Hopkins, had been sufficiently prescient to conceive, promote, and implement this idea 45 years earlier.

Ira Remsen died on March 4, 1927, in Carmel, California. His ashes were shipped to Baltimore, where they

reside behind a bronze plaque in Remsen Hall, a landmark building on the Homewood Campus. He is the only person buried on the campus, and for many years students rubbed the plaque for good luck before chemistry examinations.²⁰

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